CLAIMS: I claim:

1. A method for forming a doping superlattice, comprising the steps of:
   a. heating a solid to a predetermined temperature,
   b. establishing a standing optical beam in said solid at said temperature for a predetermined period of time,
   c. cooling said solid to a predetermined temperature.

2. The method of claim 1 wherein said doping superlattice is composed of a n-i-p-i layered structure.

3. The method of claim 1 wherein said doping superlattice is composed of a p-n-p-n layered structure.

4. The method of claim 1 wherein said doping superlattice is composed of a periodic electronic potential structure.

5. The method of claim 1 wherein said doping superlattice is composed of a plurality of planes.

6. The method of claim 1 wherein said doping superlattice is composed of a two dimensional array of wires.

7. The method of claim 1 wherein said doping superlattice is composed of a three dimensional array of dots.

8. The method of claim 1 wherein said solid is a semiconductor.

9. The method of claim 1 wherein said solid is an insulator.

10. The method of claim 1 wherein said standing optical beam is composed of a series of optical beats.

11. A method for converting a solid to a doping superlattice, comprising the steps of:
    a. heating said solid to a predetermined temperature,
    b. establishing a standing optical beam in said solid at said temperature for a predetermined period of time,
    c. cooling said solid to a predetermined temperature.

12. The method of claim 11 wherein said doping superlattice is composed of a n-i-p-i layered structure.

13. The method of claim 11 wherein said doping superlattice is composed of a p-n-p-n layered structure.

14. The method of claim 11 wherein said doping superlattice is composed of a periodic electronic potential structure.

15. The method of claim 11 wherein said doping superlattice is composed of a plurality of planes.

16. The method of claim 11 wherein said doping superlattice is composed of a two dimensional array of wires.

17. The method of claim 11 wherein said doping superlattice is composed of a three dimensional array of dots.

18. The method of claim 11 wherein said solid is a semiconductor.

19. The method of claim 11 wherein said solid is an insulator.

20. The method of claim 11 wherein said standing optical beam is composed of a series of optical beats.